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ABSTRACT

Adolescents who are experiencing difficulties in reading are found to have problems in word recognition, read at a slow pace, and comprehend slowly (Ivey, 1999). As these students move on in grade level, they are inadequately equipped with the reading comprehension skills needed in order to deal with higher level text. Struggling readers lack knowledge of the reading process, have poor reading attitudes, and lack a repertoire of reading strategies (Algozzine, Algozzine & Amendum, 1997). The purpose of this study was to equip a group of urban eighth graders with metacognitive strategies that would improve their reading comprehension, and to compare the relative effectiveness of each strategy. Three different classes were each taught a different metacognitive approach: reciprocal teaching, buddy journals, and the think aloud strategy. Students were provided pre- and post-tests in order to determine the effectiveness of the strategies for improving reading comprehension. Although no statistical differences in test scores were found between the effectiveness of the three strategies, the combined use of all of the reading strategies significantly improved reading comprehension. (Contains 24 references and a table of data. Appendixes contain recording sheets for buddy journals and reciprocal teaching.) (Author/RS)

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Improving Reading Comprehension:

A Comparative Study of Metacognitive Strategies

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Abstract

Adolescents who are experiencing difficulties in reading are found to have problems in word recognition, read at a slow pace, and comprehend slowly (Ivey, 1999). As these students move on in grade level, they are inadequately equipped with the reading comprehension skills needed in order to deal with higher level text. Struggling readers lack knowledge of the reading process, have poor reading attitudes and lack a repertoire of reading strategies (Algozzine, Algozzine & Amendum, 1997). The purpose of this study was to equip a group of urban eighth graders with metacognitive strategies that would improve their reading comprehension, and to compare the relative effectiveness of each strategy Three different classes were each taught a different metacognitive approach: reciprocal teaching, buddy journals and the think aloud strategy. Students were provided pre and post tests in order to determine the effectiveness of the strategies for improving reading comprehension. Although, no statistical differences in test scores were found between the effectiveness of the three strategies, the combined use of all of the reading strategies significantly improved reading comprehension.

Improving Reading Comprehension: A Comparative Study of Metacognitive Strategies

Reading is the interpretation of symbols that are printed or written. Within the core of reading is the interpretation or comprehension of the message that the author is trying to relate to the reader. Comprehension is influenced by the reader's perception, decoding skills, prior knowledge of the subject, and reasoning capability (Harris & Sipay, 1985). The acts of reading and comprehension are complex processes. Simply put, reading comprehension can be described as constructing and reconstructing meaning (Miller, 1993). Even more basically, "reading is comprehension" (Farnan & Rocha-Hill, 1997, p. 55). "Good readers work interactively with the text and manage their reading strategies, poorer readers do not" (Oster, 2001, p. 64).

A comparative study (Ivey, 1999) of sixth-grade readers found that

> "middle school students (a) are complex and multidimensional as readers, (b) a notable degree of variability exists among middles school readers, and (c) their reading performance and their disposition toward reading are dependent upon the kind of instructional environments in which they are asked to read" (p. 191)

Broaddus and Ivey (2000) described middle school readers as "readers in transition". They are still developing reading skills as well as structural analysis skills.

"Leaning about reading is not something that ends for students after the fourth or fifth grade" (Ivey, 2000, p. 68). "Above fourth grade, the reading matter goes beyond what students already know. Material to be read becomes more complicated, literary, abstract, and

technical. More prior knowledge and more sophisticated language and cognitive abilities are required to comprehend such materials" (Harris & Sipay, 1985, p. 4). It is important to note that struggling middle school readers experience difficulties across the curriculum, not just in a Language Arts Literacy class. "Unfortunately, many students at risk in reading tend to avoid it at all costs" (Algozzine, Algozzine & Amendum, 1997, p. 201).

Trying to define the term struggling reader is a very difficult task. "The term takes on different characteristics depending on who is defining it and for what purpose" (Alverman, 2001, p. 679). Struggling readers can be described as "youth with clinically diagnosed reading disabilities as well as to those who are unmotivated, in remediation, disenchanted, or generally unsuccessful in school literacy tasks" (Alverman, 2001, p. 679).

Struggling readers "face challenges caused by lack of knowledge of the reading process, low self-image, lack of a repertoire of reading strategies, and poor reading attitudes" (Algozzine, Algozzine & Amendum, 1997, p. 201). All in all, struggling readers have limited knowledge of word patterns, read slowly and comprehend poorly. With proper instruction, interesting material, and if taught comprehension strategies, many struggling middle school readers can become successful middle school readers (Ivey, 1999).

There are various reasons why adolescents struggle with reading and are not "readers" by the third grade.

> "Bintz (1993) explored the reasons for students' declining interest in reading during middle and high school years, and his findings were contrary to conventional wisdom on reluctant adolescent readers. First, although students lost interest in school reading, they did not necessarily loose interest in

> pleasure reading and informational reading outside of school. Second, students were not necessarily nonstrategic, nor did they use dysfunctional strategies. Rather, they used different strategies for in-school and out-of-school reading. For instance, in school they used shortcut strategies to get them through the assignments that were uninteresting; out of school, on the other hand, they were more inclined to use higher-level strategies because the material was of personal interest. Third, students did not fit into developmental categories such as avid, passive, or reluctant readers, but instead demonstrated different literate behaviors depending on the tasks they performed, the texts they read, and the interpretive stances they took towards them" (Ivey, 1999, p. 173)

"Peer influence can be positive, but if the pupil belongs to a gang or club whose code is antagonistic to school and derogates school success, it becomes almost obligatory for a member to neglect learning. "(Harris & Sipay, 1985, p. 308)

Culture can influence what counts as the act of reading and who is defined as a reader (Alverman, 2001). Alverman believes that "as a culture, we are making struggling readers out of some adolescents who for any number of reasons have turned their backs on a version of literacy called school literacy…" (p. 679). Everyone is responsible for the making of the struggling reader. According to McDermott and Varenne (1995), the everyone consists of "…school personnel, of course, and parents,…philosophers, curriculum designers, textbook publishers, tester and educational researchers…" (p. 331). McDermott and Varenne outlined three approaches by which we perpetuate the idea of the struggling reader: the deprivation

approach, the difference approach and the culture-as-disability approach (McDermott & Varenne, 1995).

The deprivation approach refers to the fact that we deprive students of a fair chance of reading success because we consistently bombard them with reading material that is at their frustration level. We, as educators, cause the students to lose faith and suffer from low self-esteem. Alverman (2001) cautions that we must pay attention to the "developmental characteristics" of students and provide reading materials that are below their frustration levels.

"The whole class instruction model in middle schools may be largely driven by the reading materials available to teachers. The most commonly used materials, typically textbooks and basal readers, presuppose that a single text written at a certain level of difficulty will be suitable for all students at a particular grade level or in a given class" (Broaddus & Ivey, 2000, p. 69). Ivey (1999) contends that "transitional chapter books are appropriate for middle students who are just slightly below their grade level in reading and for those who are quite capable of reading, but who are inexperienced or reluctant to read" (p. 375).

"A further assumption of the deprivation approach is that adolescents who struggle with reading will find they are unable to compete for the privileges that come with the grade-level performance (or above) on literacy related tasks." (Alverman, 2001, p. 681) Students who are not succeeding are often not allowed to participate in extracurricular activities, thereby further imposing a feeling of worthlessness.

The difference approach

> "agues that the ways people in different groups develop competencies as literate beings will vary accordingly to the demands of their particular cultures. For example, adolescents who struggle with school literacy tasks under the difference approach will likely be subject to few predefined reading tasks; instead, they would be encouraged to focus on the literacy activities that adults in their culture regularly perform as fully functioning members of society." (Alverman, 2001, p. 381)

What is deemed as important reading tasks for one group may not be so for another group. An assumption of the difference approach is that "by focusing on what struggling readers can do (given a relevant set of cultural experiences) rather than what they cannot do (based on an arbitrary set of reading tasks), we will be meeting their educational needs" (Alverman, 2001, p. 683).

In the culture-as-disability approach, all cultures "teach people what is worth working for, how to succeed, and who will fall short" (Alverman, 2001, p. 683). According to McDermott and Varenne (1995), culture can perpetuate failure by predicting failure. Culture predicts failure by imposing an ideal of what is normal, and what achieving normalcy looks like. They believe that

> " it takes a whole culture of people producing idealizations of what everyone should be and a system of measures for identifying those who fall short for us to forget that we collectively produce our disabilities and the discomforts that conventionally accompany them." (McDermott & Varenne, 1995, p. 337)

Other environmental factors that may influence struggling readers are low income, poverty, abuse, neglect, illness, teenage pregnancy, numerous children born addicted to drugs, fetal alcohol syndrome, single parent homes, grade retention and poor teaching (Algozzine, Algozzine & Amendum, 1997).

In reference to poor teaching, "overwhelming pressure on teachers and schools to improve scores on high-stakes tests may subvert any efforts to make long-term, foundational changes in middle school reading programs. In short, students in middle schools still need good reading instruction, but many middle school teachers may be unprepared or unable to provide it" (Broaddus & Ivey 2000, p. 68).

As reading content becomes more difficult, most students' desires to read and enjoyment of reading become minimal. Students seem to regard reading as a task or burden of sorts. Teachers need to discover ways to keep students motivated about reading. According to Frank B. May, there are three basic principles of motivation that teachers should incorporate in the classroom: 1) attend to the students' basic needs for security, self-esteem and feelings of belonging, 2) to teach students at appropriate levels of difficulty, 3) provide frequent and positive feedback, and 4) add novelty to the learning experience. It is his belief that if teachers use these basic principles they will greatly improve the classroom environment and individual student motivation for reading (May, 1994). All students, regardless of age or grade level, need to feel secure enough in their environment to be able to make mistakes without feelings of anxiety and fears of failing. When teaching students at the appropriate level of difficulty, it is important to instruct students at their instructional levels and not their frustration levels. It is important not to set students up for failure at all times. When May

mentions adding novelty, he is pertaining to the fact that lessons need not be presented the same way at all times. It is acceptable to interest students with games, different seating arrangements, and other creative ideas.

> "Increased motivation (also) contributes to more academic engaged time. Children are motivated to attend and learn when they achieve success, receive feedback regarding their responses and work, and are encouraged to involve themselves in the learning process. Effective teachers use praise and encouragement more than ineffective teachers do, and they avoid harsh criticism, sarcasm, or other expressions of strong disapproval (Medley 1977). Feedback other than praise also may motivate children or keep them on-task. The teacher's verbal or non-verbal feedback provides information to the students about the effectiveness or quality of their responses, thereby allowing them to adjust and modify future responses. Skilled readers and listeners are able to monitor their own comprehension efforts, but many less skilled or novice readers have not developed self-monitoring techniques and require feedback form teachers (Harris & Sipay, 1985, p. 100).

Reading success can be contingent upon a child's interest in and attitude toward and motivation for reading (Miller, 1993).

Students are often motivated when they are read to (Ivey, 1999). A teacher's excitement about and enthusiasm for a book can become contagious and is advantageous for struggling readers. "Introducing books and reading aloud to the class gives teachers a chance to show students that teachers themselves value the books they bring to the classroom, thus

giving the students the impression that reading is pleasurable and worthwhile" (Ivey, 1999 p. 375). In a study conducted on researching how professional development and balanced literacy approach in a secondary school fostered literacy success, Fisher (2001) also found that read-alouds are beneficial to students and can be incorporated in all content areas. "Fifth through eighth-graders love to be read to (as long as you choose the right books)" (May, 1994, p. 223).

Another way to motivate struggling middle school readers is to have them share their favorite books with the class. This process is

> "appealing to less successful and reluctant readers whose prior experiences with public reading consisted mainly of whole-class, round-robin readings of texts that were either too difficult, interesting or both. When students have a chance to choose the books they will share and to rehearse before they read aloud, they can feel like competent, valued members of their classroom literacy communities" (Ivey, 1999, p. 376).

If reading is comprehension, and if comprehension doesn't occur unless students construct meaning from the text that they are reading (Farnan & Rocha-Hill, 1997), then teachers must be equipped with a plethora of reading comprehension strategies in order to aid struggling middle school readers. Constructivist theory states that "learning occurs only when learners approach a task with a clear purpose and intention to think, to find out something, to know something they did not know before (Scardamalia & Bereiter, 1991)" (Farnan & Rocha-Hill, 1997, p. 55). Several comprehension strategies that researchers have found helpful in middle school classrooms will be discussed.

"Role-playing is a suitable substitute when students are not able to participate in authentic firsthand experiences of social or historical events" (Zigo, 2001, p. 67). In a study on urban middle school students and narrative theory, Zigo (1998) found that when students were involved in role-playing activities, they were able to comprehend textual, curricular and sociopolitical content and at the same time devise critical thinking skills and questions. Ivey (1999) suggests using reader's theater as an activity. This is activity where students act out poem, short stories, excerpts from novels or a wide range of texts. Ivey states that this gives the readers a real purpose for reading because "struggling middle school students enjoy oral reading activities that culminate with a performance" (Ivey, 1999, p. 378).

"Palinscar and Brown (1986) have described a strategy to promote independent learning from a text. In this strategy, called reciprocal teaching, students and teachers establish a dialogue in comprehending text" (Morgan & Richardson, 1997). There are four goals of reciprocal teaching: prediction, summarization, questioning and clarification. In the study mentioned earlier that conducted on researching how professional development and balanced literacy approach in a secondary school fostered literacy success, Fisher found that reciprocal teaching is a useful classroom tool in building comprehension because "some of our most effective learning comes through opportunities to teach or interact with others" (Fisher, 2001, p. 95).

> "This structured inquiry provides learners with a process for exploring text and checking their own comprehension. Students teach each other the meaning they have gained from a text while solidifying their own understanding. In the first phase, summarizing, learners read a passage and identify the big ideas.

> Unanswered questions are then created. In the clarifying phase, each reader focuses on unfamiliar vocabulary and puzzling concepts. In the final phase, predicting, each student uses all of the information available in the reading, including pictures and text structure, to determine what might happen next" (Fisher, 2001, p. 95).

Study skills are valuable tools in teaching reading comprehension. According to Singleton (1997), students with good study habits have learned how to learn and have a motivated and positive attitude towards learning. Therefore, in order to provide academic success for struggling middle school readers, teachers must teach study habits and skills. Students need to know how to interact with textbooks in content areas. For example, when using textbooks, students must realize that all "text is usually organized by division into meaningful sections or segments, signified by subheadings. Readers must learn to pay attention to these segments as a way to help them focus on important pieces of material" (Morgan & Richardson, 1997, p. 132). Similarly, Fisher states that "all text is arranged according to structures created by the author." (Fisher, 2001, p. 96) An effective way to teach this study skill to them is through structured note taking. In this strategy, struggling readers are able to have a strategy in hand that will help them identify the main idea and supporting details of text. "The teacher provides the students with graphic organizers that have been tailored to the text, and students complete the structured notes as they read. As learners become familiar with common text organizers, they create their own structured notes" (Fisher, 2001, p. 96). "Teachers can help students read and understand by encouraging them to turn

subheadings into questions or purpose statements, then reading to answer the question or fulfill the purpose" (Morgan & Richardson, 1997, p. 132).

In an article written on the rationale for using picture books for middle school and secondary students, the authors state that

> "picture books have long been a staple for reading aloud to students in the primary grades. However, high quality fiction and informational books such as the Caldecott Medal winners have universal themes and can be enjoyed by students of all ages. Reading picture books in secondary coursed increases motivation, understanding of concepts, and aesthetic appreciation, and provides easier material for less able readers" (Brant, Buchanan, Carr, Weiss, & Wentz, 2001, p. 146).

It is the contention of Brant et al. (2001) that picture books contain works of art that are aesthetically pleasing, rich vocabulary, short stories, focus on a single subject, appeal to visual learners, provide background knowledge for learners, and are tools that can be used in an interdisciplinary approach to teaching by combining the arts with literature or content area subjects. "Books chosen to read aloud to older students should contain provocative issues and moral dilemmas to stimulate critical thinking and discussion (Richardson, 2000) and promote collaborative construction of meaning" (Brant et al., 2001, p. 147). Picture books can be used to teach literary devices and promote creative writing.

> "Often students who are struggling with the length and the complexity of an assigned novel miss the subtleties of the author's craft, such as use of mood or metaphor, time sequence, point of view, cause and effect, or comparison and

contrast (Kane, 1998). Choosing a picture book to read aloud to the class prior to an assignment can prepare students for success" (Brant et al., 2001. p. 148).

Cross – age tutoring was a literacy and comprehension strategy used with a group of struggling seventh-grade readers who followed a Strategic Reading program in order to tutor third grade struggling readers. In this study performed by Fisher, Flood, Frey, Jacobson, Lapp, and Thrope (2001), the researchers found that the tutoring program used in the classroom was beneficial for the struggling readers. "The philosophy of the Strategic class was that optimum learning occurs in an environment of intrinsic purposeful engagement through supportive instructional methods" (Fisher et al., 2001, p. 530). Within the program, the teacher taught the students reading strategies to use with the third graders.

> "Strategies included reading for meaning, becoming independent in word recognition through the use of decoding and self-monitoring strategies, learning to spell by hearing sounds in words, spelling the sounds with letters, attending to letter order, using high-frequency words, selecting books at appropriate reading levels, and using metacognitive reading strategies. They were also given opportunities for independent learning and were continually supported in their reading and instructional efforts by their teacher (Fisher et al., 2001, p. 530).

The Strategic Reading class followed a five-day plan. On day one the students met at school to discuss the literature they would be using with the third graders. The teacher modeled the instructional strategies that they, the tutors, were to use with the younger readers, the tutees. Day two involved the tutors practicing the previous days' strategies and techniques

with their peers. Tutors each had to read the literature to each other and locate and define vocabulary words that would possibly pose a problem for the tutees. The tutors visited one elementary third grade class on day three and another on day four. Each tutor worked with two students in each class. The week culminated with day five's activity during which the students participated in whole-class discussions about any successes or failures that they experienced. "Students shared their experiences including tutees' attitudes, motivation, cooperation, interests and achievements in the Tutor Log (later given to the third-grade teacher). In addition, each tutor wrote an entry in his or her journal regarding the weeks' tutoring experience" (Fisher et al., 2001, p. 530).

At the end of the study Fisher et al. (2001) found that, there was a change in the literacy development of the seventh graders. They attributed the success to the tutoring and the strategies that were taught to the students and that this program gave the tutors "an authentic reason for wanting to improve their (own) literary skills" (p. 534). After the observation, the students were tested in writing by with using a writing sample and grading it with a seven-point rubric, conducting the Stanford Diagnostic Reading Test, and using the Metacomprehension Strategy Index. An increase in literacy was found at all three levels of testing. In addition, the reading attitudes of the students were compared to those that they had in the beginning of the year. Observations of the tutoring sessions were also used to determine literary growth.

During observations of the tutoring phase, Fisher et al. (2001) observed "that during the tutor's read-aloud time, they increasingly demonstrated appropriate examples of rhythm, thyme, stress and intonation, as they modeled the skills for their tutees" (p. 533). They also

found that the seventh grade struggling readers had a better attitude towards reading and "paid much more attention to words, their meaning, and spellings" (p. 533). The vast amount of rereading that occurred helped the tutors with their own fluency. The students in this class listened to books being read to them by a competent reader, the middle school teacher, on a regular basis. In addition, these students got to hear a peer read the book aloud a second time" (p. 543).

In conclusion, it is the belief of Fisher et al. (2001)

> " that the Strategic Reading class structured in this way provided important modeling of effective reading strategies for the students. Not only were they taught strategies that they could use, they were also expected to model those strategies for the younger students. This required the students to internalize the strategies and forced them to use them. This transference, (they) believe was key in the students' success and would not have been accomplished without a cross-age tutoring component" (p. 535).

Metacognition is the process of thinking about one's own actions emotionally and intellectually. It involves cognitive skills as well as motivation (May, 1994)."This metacognitive awareness (being able to think about one's own thinking) is a crucial component of learning, because it enables learners to assess their level of comprehension and adjust their strategies for greater success" (Oster, 2001, p.64). Students have to learn to think about what they are reading and how to interact with the text.

> "Metacognitive strategies are those that guide us as we attempt to monitor and control or learning. These strategies involve students' knowing whether or not

> they have comprehended a certain aspect or generalization. Metacognitive strategies guide our knowledge of procedures and tasks which are appropriate and most expedient for solving problems and adding information that enhances our experiential background" (Singleton, 1997).

Bradshaw (2000) explains that metacognition is known as the "Cognitive Caboose Theory, in which higher – order questions are the engine that pulls along the caboose (lower level information)" (p. 145). "Ruddell (1990) discovered that students whose teachers asked more higher –order questions performed better on reconstructive comprehension reading tasks as well as higher – level tasks" (Bradshaw, 2000, p. 144). Reconstructive comprehension questions involve those types of questions that address main idea, central themes, details, inferences, drawing conclusions, sequence, cause-and-effect, and vocabulary awareness. Constructive comprehension involves critical thinking and creative comprehension. When students become aware and familiar with these questioning techniques, they can become metacognitively aware and construct their own questions when interacting with text (Bradshaw, 2000).

Teachers use the concept of metacognition in order to teach students to question the literature they are reading. "Youngsters can learn to formulate their own questions about a reading, questions that will help them reflect, clarify and evaluate, in other words, to develop deeper understandings that include but go beyond (recalling) facts and details" (Farnan & Rocha-Hill, 1997, p. 57).

The effect of adjunct questions used in texts was questioned in a study conducted by Peverly and Wood (2001).

> "The variables of primary adjunct question research have been question location (massed before passages, inserted before or after paragraphs, or massed after text pages), question pacing or frequency (the amount of text between questions), and types of questions (e.g., lower versus higher level questions)" (Peverly & Wood, 2001, p. 25).

Their study consisted of three varied controlled groups of secondary students who were wither given material to read with inserted questions, post-questions or no questions. The results showed that

> "inserted questions (and to a lesser extent massed post-questions) (a) improved the comprehension skills of learning disabied adolescents, at least with narrative text; (b) increased in effectiveness over time of treatment, at least to a certain point; and (c) in combination with feedback, facilitated students' skill in identifying main ideas and generated inferences" (p. 40).

In a study performed by Neal, McCray and Vaughn (2001), the researchers interviewed struggling middle school readers and tried to determine "the knowledge, understanding, and perceptions about reading..." (p. 19). Students' responses were elicited in four areas: (a) how well they read, (b) how they had been taught reading, (c) their purposed for involvement in explicit reading instruction, and (d) their reflections on reading instruction that might improve their reading ability" (p. 19).

Students were able to provide their own definitions of reading and were able to differentiate the characteristics of good readers versus bad readers. All in all, students stated that good readers had good fluency, rate diction, were intelligent, were able to decode

unfamiliar words, stay focused, enjoy reading and read fro understanding. Poor readers were described as "those unable to read material quickly with few uncorrected errors and to recall and comprehend what they read" (p. 21). Students also mentioned that poor readers had difficulty in vocabulary, fluency, had no motivation, little confidence and were very influenced by their peers and easily embarrassed.

While questioning the students about how they learned to read, "although the majority of the participants recalled events involving reading in the home, many were hard-pressed to identify particular stories or name a favorite book or title" (p. 22).

> "Nearly half of the students indicated that their parents continued to help them with their reading during the middle school years, and the other half indicated that their parents demonstrated concern for their progress in reading but did not provide assistance in instruction." (p. 22).

Many of he students believed that their reading lessons in school lacked "enough focus and consistency" (p. 24).

> "A majority of the students attempted to provide rich details of their reading instruction in clear, descriptive ways. However, what frequently emerged were scanty, disjointed revelations of instruction as reading games, disconnected and spontaneous reading lessons, decoding rules, and strategies for recall and comprehension" (p. 24).
>
> "Across interviews, students revealed limited explicit instruction when confronted with difficult reading material. Based on students' recollections, everyone around them indicated that there were strategies for reading the

unfamiliar words and understanding the material assigned to them. However, many students offered little evidence that they were instructed on how to apply those strategies" (p. 24).

All of the students recognized the importance for reading and that their knowledge of reading will affect their future aspirations in life. "They spoke of the importance of reading success in terms of school achievement, success in postsecondary education, future employment opportunities, and the ability to assist their own children to read" (p. 25).

"Vocabulary instruction continues to be an important part of language arts instruction in middle school classrooms. It is important for teachers to find effective strategies that take into account the different levels of word knowledge" (Flood, Lapp & Ranck-Burr, 1997, p. 144). Vocabulary instruction can increase comprehension. Different levels of word knowledge include learning to read known words, learning new meanings from known words, learning new words representing known concepts, leaning new words representing new concepts, clarifying and enriching meanings of known words and moving words into students' productive vocabularies (Flood, Lapp & Ranck-Burr, 1997, p. 142).

Narrative theory can also assist in students remembering or internalizing vocabulary words. In the aforementioned study on urban middle school students and narrative theory, Zigo (1998) also found that when students related vocabulary words to personal stories or stories about real life occurrences, students were more apt to remember the meanings of these words. She noticed the "meaning-making process emerge when students were given the opportunity link textual content with personal experiences – their familiar worlds" (Zigo,

2001, p. 65). As she observed the classroom, she realized that it was advantageous when the teacher allowed the students to write or discuss personal stories because

> "when teachers encourage the students' natural inclinations toward narrative forms of meaning making, in conjunction with text-based lessons, the students appear more engaged with textual content and demonstrate less resistance to reading material that might otherwise be challenging or frustrating" (Zigo, 2001, p. 64).

Zigo also noted that it was important for the teacher to allow the students enough time to develop and elaborate their narratives. "The more descriptive and sustained the students' stories the more likely the students were to reformulate the new concept in their own words, constantly linking the new ideas with personal experiences" (Zigo, 2001, p. 65).

Concept mapping or webbing allows students to make connections with a vocabulary word or a concept. "It helps learners construct meaning by making connections explicit. Students create concept definition maps using a template that places the concept under study at the center, with radiating arms that discuss its elements" (Fisher, 2001, p. 94). Rosenbaum (2001) invented a vocabulary concept map or graphic organizer that would be beneficial for struggling readers. The map includes various devices to aid in vocabulary acquisition. It contains boxes to write the word in question, another form of the word, the sentence that it appears in within the book, the definition, a synonym, antonym, a unique expression, association or example of the word and a space for the student to write their own sentence with the word. This map helps students clarify word meanings, assists with structural analysis,

and provides the student wit personal ownership of the word by allowing the student to make up his own visual or written cue to help remember the word.

Reading and writing processes are very similar in that once an author writes, he takes the time to reread his writing. "The kind of reading that takes place during writing is quite intensive, involving much critical analysis" (Algozzine, Algozzine & Amendum, 1997, p. 202). Struggling readers who are asked to read their own material aloud will do so with more success and less anxiety.

The writing *to learn* strategy can be incorporated to aid in reading comprehension. It incorporates the use of writing prompts, questions or sentence starters in order to "engage learners in reflection as they make meaning of the new material. Because this is a reflective activity, it is vital that the response be not merely a summary of facts and sequences" (Fisher, 2001, p. 93). The strategy can be introduced at any point of a lesson. It can be used before a lesson to summarize the previous day's lesson. The use of this strategy during a reading lesson can be used for making predictions; and using it after a lesson can "extend learners' understanding of the material by having them apply what they have learned to a new situation" (Fisher, 2001, p. 93).

In order to improve reading instruction for struggling middle school readers, Broaddus and Ivey (2000) suggest that educators should be "(a) moving independent reading to the forefront of instruction, (b) providing access to varied reading materials, (c) approaching instruction as a developmental process, and (d) learning about individual students as readers and writers" (p. 70).

It is their hope that individualized reading eventually becomes the meat of middle school reading programs. This would be part of the curriculum. During this block, teachers would be attending to students' individual needs. Having students read at their instructional level will allow for good observation, assessment and remediation.

Teachers can motivate students to read by providing them with materials that they are interested in reading. Classroom libraries need to be diverse and enticing (Broaddus & Ivey 2000). This would require teachers to become knowledgeable on all current and classic adolescent literature of various genres.

In order to make the classroom environment developmental for the various levels of middle school readers, teachers need to have a balanced literacy approach in which they read aloud to the students, conduct fluency activities linking reading and writing, and study structural analysis (Broaddus & Ivey 2000).

Statement of Problem

Reading comprehension is affected by a reader's background knowledge, ability to make predictions, mental imagery skills, vocabulary skills, thinking abilities, word recognition, reading attitudes, motivation and self-image (Ivey, 2000) However, as students are expected to be fluent readers by the end of third grade, many are not adequately equipped to deal with the texts they are given. These students become struggling middle school readers. "Good readers work interactively with text and manage their reading strategies, poorer readers do not (Oster, 2001). Struggling readers are identified as those who have limited knowledge of word patterns, read and comprehend slowly (Ivey, 1999), have little knowledge of the reading process, and do not have a collection of reading strategies.

Adolescent readers who are experiencing difficulties need to learn good strategies that will help to increase their reading comprehension (Palinscar &Brown, 1986). In order to increase reading comprehension of all students, teachers try to incorporate pre-reading, during – reading and post-reading activities into lessons. One method used by teachers is the use of strategies to improve metacognitive awareness. Metacognition allows readers to consistently assess their level of reading comprehension and at the same time signal to students when they need to readjust a strategy for better understanding of text, thereby leading to increased reading comprehension (Oster, 2001).

Purpose

The purpose of this study was to examine the impact of teaching metacognitive awareness strategies on the comprehension skills of struggling middle school readers.

Hypothesis

It was hypothesized that after being taught to use metacognitive strategies, students would make significant improvement in reading comprehension skills.

Method

Participants

The participants (N=58) were eighth grade, urban, middle –class and poor, ethnically mixed Black and Hispanic 13 to 15 year olds who scored 1 to 4 years below their appropriate grade level on the McGraw-Hill Placement Test. These participants are part of an intact group of students comprised of three different heterogeneous school classes. Class 1 consists of 19 students (C1=21), Class 2 consists of 19 students (C2=19) and Class three consists of 20 students (C3=20).

Materials

McGraw-Hill Placement Tests (1997) were issued as pre-tests. The Burns and Roe Informal Reading Inventory was used as a post-test. Novel excerpts from McGraw-Hill Spotlight on Literature (1997) were used as classroom reading material. Teacher- made metacognitive strategies poster and worksheets were incorporated. Picture books were used for teacher-modeled metacognitive strategies (*Mufaro's Beautiful Daughters, Anansi Spider Tales* and *Why Mosquitoes Buzz in People's Ears*).

Procedures

A proposal was presented to the school principal for approval. The principal decided that it would be best not to inform the students that they were involved in research because the design was aligned to the school's educational mission and the students would not be taken away from the educational process. Students were then taught metacognitive strategies that involved questions used before during and after reading.

Class 1 (C1) was taught how to use buddy journals. The journals were used to encourage writing and critical analysis (Algozzine, Algozzine, & Amendum, 1997) while reading. The system was used with reading assignments, and was followed by whole class discussion. Students read an assigned number of pages in class or for homework. After reading, students were given time to fill a graphic organizer that was used as a framework for structuring the journal entries. All journal entries were kept together in a folder. Sections of the graphic organizer included places for the readers to write an important occurrence from the reading, write their personal thoughts and reactions to the occurrence, make predictions, and ask their buddy and the class thought provoking questions about the story. The graphic

organizer also had an area for students to write any new thoughts or ideas that they may have had as a result of the whole class discussion. Students then switched papers with their buddies. The buddy responded to the student's thoughts, provided their own predictions, answered any questions and featured their own important highlight and/or occurrence. This method allowed students to compare and contrast their thought processes as they were reading. It also gave them an opportunity to help each other remember important information about the reading. Furthermore, it was important for students to see the various predictions that came from a similar reading. This method allowed students to take notes on the reading while providing a study tool for tests. The use of the journals also provided all students with readily available material for class discussions on the reading. The students were introduced to the buddy journals through the use of the book *Mufaro's Beautiful Daughters.* After reading five pages at a time, the buddy journal was filled out on a transparency. Students were asked to volunteer as my buddy in order to fill out the buddy section of the journal. After reading the story, students were asked to write down a few questions that they would like to ask the class, and this led into a class discussion.

Class 2 (C2) was taught how to use the think aloud strategy. As an introduction I read *Mufaro's Beautiful Daughters* aloud. The students were asked to take notes on what type of questions the teacher asked herself. Students were already familiar with story elements, so they were asked to identify those types of questions as well as questions that dealt with pictures, vocabulary and any other categories. As I read the title of the book, I predicted what this book might be about based on the title. I then shared other African tales that I have heard or read about. I commented on the beautiful artwork and compared it to other books with

similar artwork. I noticed the girl holding the mirror and thought to myself, aloud, that the title says *Daughters* and there was only one daughter pictured on the cover of the book. While reading every page, I stopped, asked myself questions, compared the characters to people I knew, spoke about their character traits, remarked on the setting and made predictions. The last four pages of the story had been photocopied for the students. Students were broken into pre-assigned groups and asked to complete reading the book and take turns reading and thinking aloud. The students were instructed that after each person read a page, they were to summarize the information and make a prediction for the following page. Students were asked to remember to question, connect, summarize, reread for clarification and predict information. This method allowed the students to compare and contrast their thought processes with that of other students.

Class 3 (C3) was taught the reciprocal teaching strategy. I also used *Mufaro's Beautiful Daughters* for this lesson. Each component of the strategy was introduced to the students, along with the reason for using it. Before the story was read, I made my predictions based on the title and the pictures on the cover. As the story was being read, students added to and readjusted my predictions. After the story was read, I provided a brief written summary on the overhead projector. I then asked the students some discussion questions and we clarified any misunderstandings while students then generated questions to the group.

After each class was introduced to their strategies, I further modeled with the stories *Why Mosquitoes Buzz in Peoples Ears* and *Anansi and the Cattle Ranch.* We then moved on the literary excerpts from the McGraw-Hill, Spotlight on Literature Text. I modeled the techniques with the students using *I Know Why the Caged Bird Sings*. Students used the

strategies independently for other novel excerpts and were monitored through teacher observation over the course of six weeks.

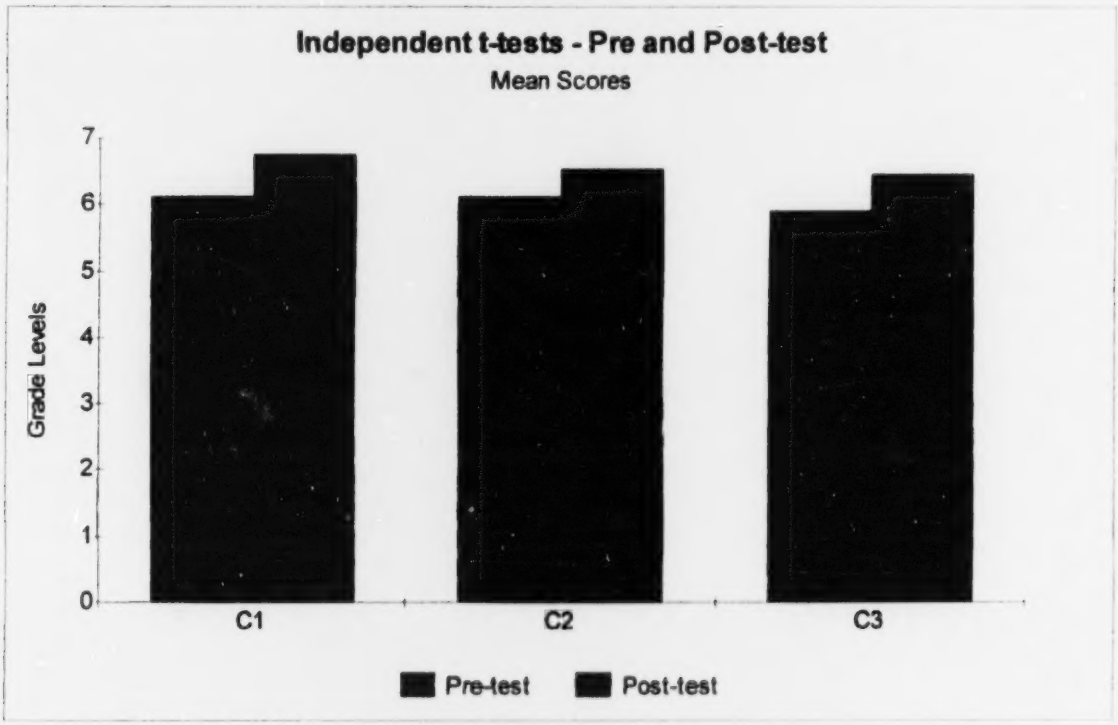
All three classes were given the post-test on the seventh week. During the administration of the post-test, students were conferenced with individually and were administered the Burns and Roe Informal Reading Inventory.

Results

Three independent t-tests were performed in order to compare the differences of the pre and post test for each group (C1, C2, and C3). A General Linear Model -Repeated Measure was performed to measure the interaction between the three groups and the pre and post-test for the three groups. An alpha level of .05 was used for all statistical tests.

An independent t-test was used to compare the pre-test scores (M=6.11, SD=1.05) with the post-test scores (M=6.74, SD=1.56) for the group who used the buddy journal. No statistical difference was found, t (36) = -1.47, p= 0.15. An independent t-test was used to compare the pre-test scores (M=6.11, SD=0.99) with the post-test scores (M=6.53, SD=1.43) for the group who used the think aloud strategy. No statistical difference was found, t (36) = -105, p= 0.30. An independent t-test was used to compare the pre-test scores (M=5.90, SD=0.85) with the post-test scores (M=6.45, SD=1.50) for the group who used the buddy journal. No statistical difference was found, t (38) = -1.42, p=0.16.

Table 1 **Mean scores of pre and post-test of three classes using different metacognitive awareness strategies.**



C1= Buddy Journals C2= Think Aloud C3=Reciprocal Teaching

The A General Linear Model -Repeated Measure showed a statistically significant effect for the interaction between the pre and post-test scores of all three groups, $F(1,55) = 23.91$, $p < .001$. There was no interaction between the three strategies, $F(2, 55) = 0.31$, $p = 0.74$. There was a difference between the pre and post-test of all groups, but there was no difference in strategy.

Discussion

The results of this study indicate that there were no statistical differences between the post-test scores of C1, C2 and C3, although each group experienced growth. This outcome would suggest that the use of buddy journals, think aloud strategies and reciprocal teaching in the classroom are all equally important metacognitive strategies. This study's results support Fisher (2001) who stated that Palinscar and Brown's reciprocal teaching strategy allows students to teach and interact with each other. Since the students, check their own comprehension, learn content meaning from each other and learn to identify the big picture, they solidify their own understanding. The outcome of my study also supports Baumann's (1993) advocating of using think-aloud strategies in the classroom. "Think aloud (strategies) involve the overt, verbal expression of the normally covert mental processes readers engage in when constructing meaning from texts. (p.185) The use of the buddy journals also allowed the students to interact with each other, as was Palinscar and Brown's goal in reciprocal teaching.

One explanation of the findings of the studies is the similarities between all of the strategies. All three metacognitive strategies included summarizing, clarifying, predicting and questioning. Oster (2001) stated that metacognitive awareness is critical to learning. Once learners are able to assess their level of comprehension, they can readjust their strategies at will. The ultimate goal is to get students to interact with text. Students must learn to question and think about what they are reading. We want to teach students to stop and analyze their understanding of text. According to the present study, it doesn't matter which strategy you use as long as you are promoting cognitive awareness.

Possible limitations of this study are that the town in which this study was conducted is very transient and is also affected by high levels of absenteeism. Many students were absent for extended periods of times or days in a row. This would affect the overall mean scores per class. Also, using pre- and post forms form the same test would have strengthened the study design. Further research needs to be done on the use of metacognitive awareness in the elementary schools. I would also like to see a comparative study of urban and suburban students, to determine whether socioeconomic factors would affect the use of these strategies. Another possible area for future research would be to teach one class all three strategies, break the class into three groups in which they choose the strategy of preference, and test the students to see if the comprehension levels would be even higher. Students are more motivated when they have choices. (Ivey, 2000)

References

Algozzine K., Algozzine R. & Amendum S. (1997). Including high-risk learners in middle school literacy activities. In J. Flood, D. Lapp and K. Wood (Eds.) Staff development guide for middle school teachers, 201 - 205. New York: Macmillan McGraw-Hill.

Bintz, W.P. (1993). Resistant readers in secondary education: Some insights and implications. Journal of Adolescent & Adult Literacy ,41(1), 12 – 24 in Ivey, G. (1999). A multicase study in the middle school: Complexities among young adolescent readers. Reading Research Quarterly, 34, (2), 172 – 193.

Bradshaw, B. (2000). Do students effectively monitor their comprehension? Reading Horizons, 41,(3), 143 - 154.

Brant, K., Buchanan, D., Carr, K., Weiss, M. & Wentz, J., (2001). Not just for primary grades: A bibliography of picture books for secondary content teachers. Journal of Adolescent & Adult Literacy ,45(2), 146 - 152.

Broaddus, K. & Ivey, G. (2000). Tailoring the fit: Reading instruction and middle school readers. Reading Teacher ,54(1), 68 - 79.

Brown A. L. & Palinscar, A. S. (1986). Interactive teaching to promote independent learning from text. The Reading Teacher, 39, 771 – 777 in Morgan, R. F.& Richardson, J. S.. (1997). Reading to Learn in the Content Areas (3rd ed.). California: Wadsworth Publishing Company.

Farnan, N. & Rocha-Hill, D. (1997). Making meaning with literature. In J. Flood, D. Lapp and K. Wood (Eds.) Staff development guide for middle school teachers, 55 - 60. New York: Macmillan McGraw-Hill.

Fisher, D. (2001). "We're moving on up": Creating a school-wide literacy effort in an urban high school. Journal of Adolescent & Adult Literacy ,45(2), 92 – 101.

Fisher, D., Flood, J., Frey, N., Jacobson, J., Lapp, D. & Thrope, L. (2001). Cross-age tutoring: A literacy improvement approach for struggling adolescent readers. Journal of Adolescent & Adult Literacy ,44(6), 528 - 536.

Flood, J., Lapp, D.& Ranck-Burr, W.(1997). Teaching content area vocabulary effectively. In J. Flood, D. Lapp and K. Wood (Eds.) Staff development guide for middle school teachers, 141 - 144. New York: Macmillan McGraw-Hill.

Ivey, G. (1999). Reflections on teaching struggling middle school readers. Journal of Adolescent & Adult Literacy ,42(5), 372 - 381.

Ivey, G. (1999). A multicase study in the middle school: Complexities among young adolescent readers. Reading Research Quarterly ,34 (2), 172 - 193.

Ivey, G. (1999). Teaching struggling middle school readers. Education Digest ,65(2), 60 - 66.

May, F. B. (1994). Reading as Communication (4th ed.) New York: McMillan Publishing Company

McDermott, R. & Varenne, H. (1995). Culture as disability. Anthropology & Education Quarterly(26), 324 – 348.

Morgan, R. F.& Richardson, J. S.. (1997). Reading to Learn in the Content Areas (3rd ed.). California: Wadsworth Publishing Company.

Neal, L. McCray, A. & Vaughn, S. (2001). Not all students learn to read by third grade: Middle school students speak out about their reading disabilities. The Journal of Special Education ,35(1), 17 - 30.

Nolan, T. (1991). Self-questioning and prediction: Combining Metacognitive Strategies. Journal of Reading, 35(2), 132 – 138.

Oster, L. (2001). Using the think-aloud for reading instruction. The Reading Teacher, 55(1), 64 - 69.

Peverly, S. & Wood, R. (2001). The effects of adjunct questions and feedback on improving the reading comprehension skills of learning-disabled adolescents. Contemporary Educational Psychology, 26, 25 – 43.

Rosenbaum, C. (2001). A word map for middle school: A tool for effective vocabulary instruction. Journal of Adolescent & Adult Literacy ,45(1), 44 - 49.

Ruddell, R.(1990). A study of the effect of reader motivation and comprehension development on students' reading comprehension achievement in influential and non-influential teachers' classrooms. Paper presented at the annual meeting of the National Reading Conference, Miami, Florida in Bradshaw, B. (2000). Do students effectively monitor their comprehension? Reading Horizons, 41,(3), 143 - 154.

Singleton, R. Jr. (1997). Study skills and the middle school student.

Zigo, D. (2001). From familiar worlds to possible worlds: Using narrative theory to support struggling readers' engagements with text. Journal of Adolescent &

Adult Literacy ,45(1), 62– 70.

Appendix A

Name _____ Date _____

Title _____ Pages read _____

Buddy Journals

Highlight/ Occurrence	My Thoughts	Prediction for Next Occurrence	My Questions for Discussion	New Ideas After Discussion
Buddy's Name	Buddy's Thoughts about My Thoughts	Buddy's Prediction	Buddy's Answer to My Question	Buddy's Important Highlight/ Occurrence

Appendix B

Name _____ Date _____

Title _____ Pages read _____

Reciprocal Teaching
Summarizing, Questioning, Clarifying and Predicting

Write a summary of the passage/chapter you just read.
Write any areas of concerns, unfamiliar words or questions you may have about the reading.
Write the answers to your questions or concerns, and define unfamiliar words.
What do you think will happen next in the literature?